

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed 07/25/2011 has been entered. Claims 17 and 32 have been canceled. Claims 1,42 and 46 have been amended. As such, Claims 1-16, 18-31, 33-42 and 46 currently are pending.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/25/2010 has been entered.

Information Disclosure Statement

2. An initialed and dated copy of applicant's IDS form 1449 submitted 07/25/2011, is attached to the instant office action.

Claim Objections

Claims 18-22 are objected to because of the following informalities: claims 18-22 are dependent on a canceled claim 17. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1, 2, 24, 27-28, 33-35, 40, 42, and 46 are rejected under 35

U.S.C. 103(a) over Luo to (EP1063830 A1), in view Yoshida to

(USPGPUB20040039775)

Regarding claims 1, 42, and 46, Luo teaches the steps of (a) using a source packet interceptor to intercept an IP packet from a source application, the source packet interceptor examines an IP header of the IP packet to determine if it is an IP packet to be intercepted([0034] discloses is any of the entries in fields 50 and 52 of ingress mapping table 46(fig.4) corresponds to the source and destination addresses and ports of the RTP/UDP/IP) (b) using a source edge process to act as the new destination for the source application ([0034] discloses access router 14 associates

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the channel number within field 60 to format mini header 904 of fig.7) , (c) using a source packet driver to aggregate the intercepted IP packets([0034] **discloses router A then performs a multiplexed packet**) , (e) using a source data mover to transport the compressed and aggregated IP packets over a communication link to a destination data mover,([0035] **discloses the multiplexed packet is then forwarded to router 30 of backbone network and is then eventually routed to its destination by way of router 32 and access router B 16 to an associated logical port**) (g) using a destination packet driver to disaggregate the transported aggregated packets([0041 **discloses router B demultiplexes the received packet**) , (h) using a destination edge process to deliver the disaggregated IP packets to a destination application([0044] **discloses the resulting reconstructed RTP/UDP/IP packet is then forwarded by router B 16 to a proper destination computing device**)

Luo does not explicitly teach (d) using a source compression engine to compress the aggregated IP packets, (f) using a destination compression engine to decompress the compressed and aggregated IP packets

However , Yoshida (d) using a source compression engine to compress the aggregated IP packets, ([0071] **discloses a video engine which is capable of capturing video data, compressing the video data, transmitting the packetized audio data to the server 300, receiving packetized video data, decompressing the video data, and playback of the video data**) (f) using a destination compression engine to decompress the compressed and aggregated IP packets([0071] **discloses a video engine which is capable of capturing video data, compressing the video data, transmitting the**

packetized audio data to the server 300, receiving packetized video data, decompressing the video data, and playback of the video data)

Therefore it would have been obvious to one ordinarily skilled in the art at the time the invention was made to enable the system of Luo includes using a source compression engine to compress the aggregated IP packets, using a destination compression engine to decompress the compressed and aggregated IP packets, as suggested by Yoshida. This modification would benefit the system to efficiently process the needed packets.

Regarding claim 2, Luo teaches the transport protocol optimization method of claim 1, comprising the step of using IP routing ([0034] discloses is any of the entries in fields 50 and 52 of ingress mapping table 46(fig.4) corresponds to the source and destination addresses and ports of the RTP/UDP/IP)

Regarding claim 24, Luo teaches the transport protocol optimization method of claim 1 wherein packets are intercepted by an operating system exit point ([0034] discloses access router 14 associates the channel number within field 60 to format mini header 904 of fig.7)

Regarding claim 27, Luo teaches teaches the transport protocol optimization method of claim 1, comprising the step of terminating any connection between a source application and a destination application ,([0035] discloses the multiplexed packet is then forwarded to router 30 of backbone network and is then eventually routed to

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its destination by way of router 32 and access router B 16 to an associated logical port)

Regarding claim 28, Luo teaches teaches the transport protocol optimization method of claim 1, comprising the step of opening a connection between a source data mover and a destination data mover **([0034] discloses is any of the entries in fields 50 and 52 of ingress mapping table 46(fig.4) corresponds to the source and destination addresses and ports of the RTP/UDP/IP)**

Regarding claim 33, Luo teaches teaches optimization is comprised of the step of optimization using transport protocol optimization source software and destination software **([0034] discloses is any of the entries in fields 50 and 52 of ingress mapping table 46(fig.4) corresponds to the source and destination addresses and ports of the RTP/UDP/IP.[0035] discloses the multiplexed packet is then forwarded to router 30 of backbone network and is then eventually routed to its destination by way of router 32 and access router B 16 to an associated logical port)**

Regarding claim 34, Luo teaches teaches the source software optionally runs on a source server, a source network switch, or as a source network appliance and the destination software optionally runs on a destination server, a destination network switch, or as a destination network appliance ([0034] discloses is any of the entries in fields 50 and 52 of ingress mapping table 46(fig.4) corresponds to the source and destination addresses and ports of the RTP/UDP/IP.[0035] discloses the

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multiplexed packet is then forwarded to router 30 of backbone network and is then eventually routed to its destination by way of router 32 and access router B 16 to an associated logical port)

Regarding claim 35, Luo teaches teaches connecting the source and destination network appliances to a(a) network switch, which switch is connected to an application server running a application; (b)network switch, which switch is connected to an application server running a application and to a network router; or (c) to an application server running a application **([0034] discloses is any of the entries in fields 50 and 52 of ingress mapping table 46(fig.4) corresponds to the source and destination addresses and ports of the RTP/UDP/IP.[0035] discloses the multiplexed packet is then forwarded to router 30 of backbone network and is then eventually routed to its destination by way of router 32 and access router B 16 to an associated logical port)**

Regarding claim 3, Luo teaches teaches IP packet comprising is optionally a TCP, UDP, ICMP, or other type of IP packet **([0034] discloses is any of the entries in fields 50 and 52 of ingress mapping table 46(fig.4) corresponds to the source and destination addresses and ports of the RTP/UDP/IP)**

Regarding claim 6, Luo teaches teaches the step of intercepting an IP packet from the source application comprises the step of routing the IP packet to an edge process that

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is exclusive unique to the address of the IP packet([0034] discloses is any of the entries in fields 50 and 52 of ingress mapping table 46(fig.4) corresponds to the source and destination addresses and ports of the RTP/UDP/IP)

Regarding claim 16, Luo teaches teaches the step of combining a routing header field, a message header field, and the intercepted IP packet data from the edge process([0034] discloses access router 14 associates the channel number within field 60 to format mini header 904 of fig.7)

Regarding claim 26, Luo teaches teaches The transport protocol optimization method of claim 6, comprising the step of creating a edge process for each TCP application connection([0034] discloses is any of the entries in fields 50 and 52 of ingress mapping table 46(fig.4) corresponds to the source and destination addresses and ports of the RTP/UDP/IP); a UDP edge process for each UDP intercept ([0034] discloses is any of the entries in fields 50 and 52 of ingress mapping table 46(fig.4) corresponds to the source and destination addresses and ports of the RTP/UDP/IP)and a ICMP edge process for a ICMP intercept([0034] discloses is any of the entries in fields 50 and 52 of ingress mapping table 46(fig.4) corresponds to the source and destination addresses and ports of the RTP/UDP/IP)

Regarding claim 40, Luo teaches teaches the transport protocol optimization method of claim 1, comprising the steps of (a) attaching a source server running the source application on a source LAN([0034] discloses is any of the entries in fields 50 and

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52 of ingress mapping table 46(fig.4) corresponds to the source and destination addresses and ports of the RTP/UDP/IP), (b) attaching a source TPO on the source LAN ([0034] discloses is any of the entries in fields 50 and 52 of ingress mapping table 46(fig.4) corresponds to the source and destination addresses and ports of the RTP/UDP/IP) and, (c) attaching a destination server running a destination application on a destination LAN([0044] discloses the resulting reconstructed RTP/UDP/IP packet is then forward by router B 16 to a proper destination computing device), and (d) attaching a destination TPO on the destination LAN([0044] discloses the resulting reconstructed RTP/UDP/IP packet is then forward by router B 16 to a proper destination computing device)

5. Claims 29,31,36,37, and 41 are rejected under 35 U.S.C. 103(a) over Luo to (EP1063830 A1), in view Yoshida to (US-PGPUB20040039775) and further in view of Ando to (US-PGPUB-2002/0044556)

Regarding claim 29, the combination of Luo and Yoshida does not explicitly teach the steps of (a) opening a connection between the source application and the source edge processor and (b) opening a connection between the destination edge processor and the destination

However, Ando teaches the transport protocol optimization method of claim 28, comprising the steps of (a) opening a connection between the source application and

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the source edge processor and (b) opening a connection between the destination edge processor and the destination application(**fig.3 discloses the multiplexer is connector with the destination application**) .

Therefore it would have been obvious to one ordinarily skilled in the art at the time the invention was made to enable the system of the combination of Luo and Yoshida include steps of (a) opening a connection between the source application and the source edge processor and (b) opening a connection between the destination edge processor and the destination application, as suggested by Ando. This modification would benefit the system to efficiently process the needed packets.

Regarding claim 36, the combination of Luo and Yoshida does not explicitly teach the step of integrating the source packet interceptor, driver, end processors, compression engine, and data mover into a source TPO

However, Ando teaches the transport protocol optimization method of claim 1, comprising the step of integrating the source packet interceptor, driver, end processors, compression engine, and data mover into a source TPO (**in fig 3, the multiplexers and the wire encompass the purpose of interceptor, driver, end processors, compression engine, and data mover**).

Therefore it would have been obvious to one ordinarily skilled in the art at the time the invention was made to enable the system of the combination of Luo and Yoshida

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include the step of integrating the source packet interceptor, driver, end processors, compression engine, and data mover into a source TPO, as suggested by Ando. This modification would benefit the system to efficiently process the needed packets.

Regarding claim 37, the combination of Luo and Yoshida does not explicitly teach the step of integrating the packet interceptor, driver, end processors, compression engine, and data mover into a destination TPO

However, Ando teaches the transport protocol optimization method of claim 1, comprising the step of integrating the packet interceptor, driver, end processors, compression engine, and data mover into a destination TPO **(in fig.3, the multiplexers and the wire encompass the purpose of interceptor, driver, end processors, compression engine, and data mover).**

Therefore it would have been obvious to one ordinarily skilled in the art at the time the invention was made to enable the system of the combination of Luo and Yoshida include the step of integrating the packet interceptor, driver, end processors, compression engine, and data mover into a destination TPO, as suggested by Ando. This modification would benefit the system to efficiently process the needed packets.

Regarding claim 31, the combination of Luo and Yoshida does not explicitly teach

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steps of (a) transporting packets from the source application to the source packet interceptor over a source LAN and (b) transporting packets delivered to a destination data mover to a destination application over a destination LAN

However, Ando teaches the transport protocol optimization method of claim 29, comprising the steps of (a) transporting packets from the source application to the source packet interceptor over a source LAN and (b) transporting packets delivered to a destination data mover to a destination application over a destination LAN (**fig.3 discloses the source application to the source packet interceptor over a source over an IP network to a destination data mover to a destination application over a destination**).

Therefore it would have been obvious to one ordinarily skilled in the art at the time the invention was made to enable the system of the combination of Luo and Yoshida include the steps of (a) transporting packets from the source application to the source packet interceptor over a source LAN and (b) transporting packets delivered to a destination data mover to a destination application over a destination LAN, as suggested by Ando. This modification would benefit the system to efficiently process the needed packets.

Regarding claim 41, the combination of Luo and Yoshida does not explicitly teach

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wherein the packets from the source application are transported over the source LAN to the source TPO and the packets from the destination application are transported over the destination LAN to the destination TPO

However, Ando teaches The transport protocol optimization method of claim 40, wherein the packets from the source application are transported over the source LAN to the source TPO and the packets from the destination application are transported over the destination LAN to the destination TPO (**fig.3 discloses the source application to the source packet interceptor over a source over an IP network to a destination data mover to a destination application over a destination**).

Therefore it would have been obvious to one ordinarily skilled in the art at the time the invention was made to enable the system of the combination of Luo and Yoshida include wherein the packets from the source application are transported over the source LAN to the source TPO and the packets from the destination application are transported over the destination LAN to the destination TPO, as suggested by Ando. This modification would benefit the system to efficiently process the needed packets.

6. Claims 4, 5 and 25 are rejected under 35 U.S.C. 103(a) over Luo and Yoshida, and in further view Yan to (US2005/0018651)

Regarding claim 4, the combination of El-Malki and Rueda does not explicitly teach

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the transport protocol optimization method of claim 1, wherein intercepting an IP packet from the source application comprises the steps of comparing the IP packet's address to packet addresses in a look-up table and (b) intercepting only those source packets with the same addresses as those stored in the look-up table.

However, Yan discloses the steps of comparing the IP packet's address to packet addresses in a look-up table and (b) intercepting only those source packets with the same addresses as those stored in the look-up table(a discrimination table, figure 5, box 106).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of the combination of Luo and Yoshida by including the steps of comparing the IP packet's address to packet addresses in a look-up table and (b) intercepting only those source packets with the same addresses as those stored in the look-up table, as suggested by Yan. This modification would benefit the system to processes packets selectively.

Regarding claim 25, the combination of Luo and Yoshida andYan, discloses the transport protocol optimization method of claim 4 comprising the step of modifying the destination address of the IP packets accepted for interception to be the address of the source packet interceptor (**Yan, fig. 3a box 196, translate the source IP address**).

Regarding claim 5, Though the combination of Luo and Yoshida does not explicitly discloses the transport protocol optimization method of claim 1, wherein the address of the IP packet comprises the packet's source IP address, source port number, destination IP address, destination port number, and protocol type, it is obvious to one of ordinary skill in the art standard IP frame contains the above mentioned fields (for instance, Yan ,fig 10 discloses outbound client data with source IP address, source port number, destination IP address, destination port number, and protocol type).

7. Claims 7-15 and 18 are rejected under 35 U.S.C. 103(a) over Luo and Yoshida and Chapman et al. to **(US6643292)** further in view of Rueda to **(US-PGPUB-20020112076)**

Regarding claim 7, the combination of Luo and Yoshida does not explicitly teach the transport protocol optimization method of claim 1, wherein intercepting an IP packet from the source application comprises the steps of an edge process (a) reading the data contained in the routed IP packets and (b) forming a message header field for the routed IP packets.

However, Chapman teaches the transport protocol optimization method of claim 1, wherein intercepting an IP packet from the source application comprises the steps of an edge process (a) reading the data contained in the routed IP packets and (b) forming

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a message header field for the routed IP packets (Chapman, col. 3 Ins 60-62 **discloses encapsulating packets and including TCP header**).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of the combination of Luo and Yoshida by including the steps of an edge process (a) reading the data contained in the routed IP packets and (b) forming a message header field for the routed IP packets, as suggested by Chapman. This modification would benefit the system to efficiently transfer packets in packet transport network (col.3 Ins 50-51).

Regarding claim 8, the combination of Luo and Yoshida silent on the transport protocol optimization method of claim 1, comprising the step of the packet driver forming a packet driver message.

However, Chapman teaches the transport protocol optimization method of claim 1, comprising the step of the packet driver forming a packet driver message(Chapman ,col. 3 Ins 60-62 **discloses encapsulating packets and including TCP header (which form TCP/IP packet) before sending to the transport network**).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of the combination of Luo and Yoshida by including the step of the packet driver forming a packet driver message, as suggested

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by Chapman. This modification would benefit the system to efficiently transfer packets in packet transport network (col.3 lns 50-51).

Regarding claim 9, the combination of Luo and Yoshida -Chapman teach the transport protocol optimization method of claim 8, wherein the packet driver message comprises the message header field and intercepted IP packet data from one edge process (Chapman, fig.5 and fig.7 discloses packets with header field when combining these two packets it gives the TCP/IP data).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of the combination of Luo and Yoshida - Chapman by including the packet driver message comprises the message header field and intercepted IP packet data from one edge process, as suggested by Chapman. This modification would benefit the system to efficiently transfer packets in packet transport network (col.3 lns 50-51).

Regarding claim 10, the combination of Luo and Yoshida -Chapman teach the transport protocol optimization method of claim 9, comprising the step of forming a plurality of packet driver messages (Chapman , col. 3 lns 60-62 discloses encapsulating packets and including TCP header (which form TCP/IP packet) before sending to the transport network).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of the combination of Luo and Yoshida - Chapman by including the step of forming a plurality of packet driver messages, as suggested by Chapman. This modification would benefit the system to efficiently transfer packets in packet transport network (col.3 Ins 50-51).

Regarding claim 11, the combination of the combination of Luo and Yoshida - Chapman teach the transport protocol optimization method of claim 10, comprising the step of aggregating multiple packet driver messages into a packet driver buffer (Chapman ,col.2 Ins 61-62 discloses aggregating TCP packets into buffer).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of the combination of Luo and Yoshida - Chapman by including the step of aggregating multiple packet driver messages into a packet driver buffer, as suggested by Chapman. This modification would benefit the system to efficiently transfer packets in packet transport network (col.3 Ins 50-51).

Regarding claim 12 the combination of Luo and Yoshida -Chapman teach the transport protocol optimization method of claim 11, wherein the size of the aggregated packet driver messages is less than or equal to a predetermined maximum size of the

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buffer (Chapman , col.2 Ins 62-64, discloses TCP packets are suitable for first-in-first-out queues, so it will maintain the right level at all time).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of the combination of Luo and Yoshida - Chapman by including the size of the aggregated packet driver messages is less than or equal to a predetermined maximum size of the buffer, as suggested by Chapman. This modification would benefit the system to efficiently transfer packets in packet transport network (col.3 Ins 50-51).

Regarding claim 13, the combination of the combination of Luo and Yoshida - Chapman teach the transport protocol optimization method of claim 12, comprising the step of the packet driver forming a routing header in the packet driver buffer that precedes the first packet driver message (Chapman, col.5 Ins 28-31, discloses **Transport Access Point compresses customer packets and add routing header**).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of the combination of Luo and Yoshida - Chapman by including the step of the packet driver forming a routing header in the packet driver buffer that precedes the first packet driver message, as suggested by Chapman. This modification would benefit the system to efficiently transfer packets in packet transport network (col.3 Ins 50-51).

Regarding claim 14, the combination of the combination of Luo and Yoshida - Chapman teach the transport protocol optimization method of claim 13, wherein the routing header comprises a function type field, a number of packet driver messages field, and a data length field (Chapman , **fig.5 discloses IP header that contains : function type field, a number of packet messages field, and a data length field**).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of the combination of Luo and Yoshida - Chapman by including the routing header comprises a function type field, a number of packet driver messages field, and a data length field, as suggested by Chapman. This modification would benefit the system to efficiently transfer packets in packet transport network (col.3 lns 50-51).

Regarding claim 15, the combination of the combination of Luo and Yoshida - Chapman teach the transport protocol optimization method of claim 7, wherein the message header comprises a version field, a length of header field, a message function type field, a message flag field, a protocol type field, a sequence number field, a source IP address field, a destination IP address field, a source IP port number field, a destination IP port number field, a length of data field, and a status field(Chapman , **fig.5 and fig.7 (TCP/IP) discloses version field, a length of header field, a message function type field, a message flag field, a protocol type field, a sequence number field, a source IP address field, a destination IP address field, a**

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source IP port number field, a destination IP port number field, a length of data field, and a status field).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of the combination of Luo and Yoshida - Chapman by including wherein the message header comprises a version field, a length of header field, a message function type field, a message flag field, a protocol type field, a sequence number field, a source IP address field, a destination IP address field, a source IP port number field, a destination IP port number field, a length of data field, and a status field, as suggested by Chapman. This modification would benefit the system to efficiently transfer packets in packet transport network (col.3 lns 50-51).

Regarding claim 18, the combination of the combination of Luo and Yoshida - Chapman teach the transport protocol optimization method of claim 17, comprising the step of routing the packet driver buffer to the data mover (Chapman, col.5 lns 27-29 , **discloses at the transport access point after aggregating customers packets pass it to the router).**

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of the combination of Luo and Yoshida - Chapman by including the step of routing the packet driver buffer to the data mover, as suggested by Chapman. This modification would benefit the system to efficiently transfer packets in packet transport network (col.3 lns 50-51).

7. Claims 19-22, 30 , and 38 are rejected under 35 U.S.C. 103(a) over Luo and Yoshida and Chapman et al. to **(US6643292)** further in view of Rueda to **(US-PGPUB-20020112076)**

Regarding claim 19, the combination of the combination of Luo and Yoshida - Chapman does not explicitly teach transmission of packet driver buffers over a communication link by the data mover comprises

one or more of the steps of (a) inserting data mover fields into the start of the packet driver buffer; (b) if necessary, reducing the size of the packet driver buffer by breaking the buffer into multiple segments, with each segment being no greater than the size specified in the configuration file; (c) using standard UDP socket calls to interface with the TCP stack for UDP delivery of the segments over the network

However, Rueda teaches transmission of packet driver buffers over a communication link by the data mover comprises one or more of the steps of (a) inserting data mover fields into the start of the packet driver buffer; (b) if necessary, reducing the size of the packet driver buffer by breaking the buffer into multiple segments, with each segment being no greater than the size specified in the configuration file; (c) using standard UDP socket calls to interface with the TCP stack for UDP delivery of the segments over the network **([0082] FIG. 12 discloses the System For each packet that arrives to the driver, creates a UDP packet with destination information and send to transport**

layer on the System port (60). Add client information to DestAddrPool if UDP packet or if a handshaking TCP packet)

Therefore it would have been obvious to one ordinarily skilled in the art at the time the invention was made to enable the combination of the combination of Luo and Yoshida -Chapman include transmission of packet driver buffers over a communication link by the data mover comprises one or more of the steps of (a) inserting data mover fields into the start of the packet driver buffer; (b) if necessary, reducing the size of the packet driver buffer by breaking the buffer into multiple segments, with each segment being no greater than the size specified in the configuration file; (c) using standard UDP socket calls to interface with the TCP stack for UDP delivery of the segments over the network, as suggested by Rueda. This modification would benefit the system to be more efficient.

Regarding claim 20, the combination of the combination of Luo and Yoshida -Chapman does not explicitly teach the communication link is a TCP, UDP, or other TCP/IP link However, Rueda teaches the communication link is a TCP, UDP, or other TCP/IP link ([0140] **discloses TCP/IP protocol stack**).

Therefore it would have been obvious to one ordinarily skilled in the art at the time the invention was made to enable the system of the combination of the combination of Luo and Yoshida -Chapman include the communication link is a TCP, UDP, or other TCP/IP link, as suggested by Rueda. This modification would benefit the system to be more efficient.

Regarding claim 30, the combination of the combination of Luo and Yoshida -

Chapman does not explicitly teach the TCP, UDP, or other TCP/IP link for transporting the stored packets is over a WAN

However, Rueda teaches the TCP, UDP, or other TCP/IP link for transporting the stored packets is over a WAN([0021] **DISCLOSES The Interproxy server includes two 10 Mbps or 100 Mbps Ethernet cards and typically sits behind a router connected to the Internet or a WAN connection in a branch office**)

Therefore it would have been obvious to one ordinarily skilled in the art at the time the invention was made to enable the system of the combination of the combination of Luo and Yoshida -Chapman include the TCP, UDP, or other TCP/IP link for transporting the stored packets is over a WAN as suggested by Rueda. This modification would benefit the system to be more efficient

Regarding claim 21, the combination of the combination of Luo and Yoshida -

Chapman does not explicitly teach the data mover protocol comprising comprises (a) data mover transport data subfield, and (b) data mover transport acknowledgement subfield

However, Rueda teaches the data mover protocol comprising comprises (a) data mover transport data subfield, and (b) data mover transport acknowledgement subfield([00140] **discloses TCP/IP protocol stack it is well known as disclosed per RFC-793, fig.3 , that TCP header format includes a data field and acknowledgment field**).

Therefore it would have been obvious to one ordinarily skilled in the art at the time the invention was made to enable the system of the combination of the combination of Luo and Yoshida -Chapman include the data mover protocol comprising comprises (a) data mover transport data subfield, and (b) data mover transport acknowledgement subfield ,as suggested by Rueda. This modification would benefit the system to be more efficient

Regarding claim 22, the combination of the combination of Luo and Yoshida - Chapman does not explicitly teach the data mover transport data subfield comprising comprises the length of the entire subfieldthe logical sequence number of this transport message, and the physical sequence number of this transport message

However, Rueda teaches the data mover transport data subfield comprising comprises the length of the entire subfield the logical sequence number of this transport message([00140] discloses TCP/IP protocol stack it is well known as disclosed per RFC-793, Page 17, that TCP includes length of the header field and data field), the subfield type code([00140] discloses TCP/IP protocol stack it is well known as disclosed per RFC-793 section 2.9 discloses TCP makes use of internet protocol type of service field),, and the physical sequence number of this transport message([00140] discloses TCP/IP protocol stack it is well known as disclosed per RFC-793, fig.3 , TCP HEADER discloses sequence number)

Therefore it would have been obvious to one ordinarily skilled in the art at the time the invention was made to enable the system of the combination of Luo and

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Yoshida -Chapman include the data mover transport data subfield comprising comprises the length of the entire subfield the logical sequence number of this transport message, and the physical sequence number of this transport message, as suggested by Rueda. This modification would benefit the system to be more efficient

Regarding claim 38, the combination of Luo and Yoshida does not explicitly the step of using a source TPO and a destination TPO to create a pair of TPOs.

However, Rueda teaches the step of using a source TPO and a destination TPO to create a pair of TPOs(see fig.16 and 17)

Therefore it would have been obvious to one ordinarily skilled in the art at the time the invention was made to enable the system of the combination of Luo and Yoshida include the step of using a source TPO and a destination TPO to create a pair of TPOs as suggested by Rueda. This modification would benefit the system to be more efficient

8. Claim 23 is rejected under 35 U.S.C. 103(a) over Luo and Yoshida and Chapman et al. to **(US6643292)** and Rueda to **(US-PGPUB-20020112076)**and further in view of Itoh to **(US20020194361)**

Regarding claim 23, the combination of Luo and Yoshida -Chapman- Rueda does not explicitly teach the data mover transport acknowledgement subfield comprising comprises the length of the entire subfield, the subfield type code, the highest physical

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block number sent from this side of the connection the highest physical block number received on this side of the connection, the bit-significant flags representing the blocks received and the rate of data delivery to the destination packet driver

However, Rueda teaches the data mover transport acknowledgement subfield comprising comprises the length of the entire subfield, the subfield type code, the highest physical block number sent from this side of the connection([00140] **discloses TCP/IP protocol stack it is well known as disclosed per RFC-793, fig.3 , TCP HEADER discloses sequence number**), the highest physical block number received on this side of the connection, the bit-significant flags representing the blocks received([00140] **discloses TCP/IP protocol stack it is well known as disclosed per RFC-793, fig.3 , TCP HEADER discloses ACK flag**),

Therefore it would have been obvious to one ordinarily skilled in the art at the time the invention was made to enable the system of the combination of Luo and Yoshida -Chapman- Rueda include the data mover transport acknowledgement subfield comprising comprises the length of the entire subfield, the subfield type code, the highest physical block number sent from this side of the connection the highest physical block number received on this side of the connection, the bit-significant flags representing the blocks received and the rate of data delivery to the destination packet driver,as suggested by Rueda. This modification would benefit the system to be more efficient

However, Itoh teaches the rate of data delivery to the destination packet driver(**abstract, Itoh, discloses a transmission rate determining portion (104)**

**determines the transmission rate of the data, and a data sending portion (100)
sends the data at the determined transmission rate)**

Therefore it would have been obvious to one ordinarily skilled in the art at the time the invention was made to enable the system of the combination of Luo and Yoshida -Chapman- Rueda include the rate of data delivery to the destination packet driver, as suggested by Itoh. This modification would benefit the system to be more efficient

19. Claim 39 is rejected under 35 U.S.C. 103(a) over Luo and Yoshida and Rueda to **(US-PGPUB-20020112076)and further in view of Itoh to (US20020194361)**

Regarding claim 39, the combination of Luo and Yoshida and Rueda does not explicitly teach a plurality of pairs of TPOs optionally for multicasting and for multipoint communication

However, Itoh teaches a plurality of pairs of TPOs optionally for multicasting and for multipoint communication **(abstract, Itoh, discloses a transmission rate determining portion (104) determines the transmission rate of the data, and a data sending portion (100) sends the data at the determined transmission rate)**

Therefore it would have been obvious to one ordinarily skilled in the art at the time the invention was made to enable the system of the combination of Luo and Yoshida and Rueda include a plurality of pairs of TPOs optionally for multicasting and

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for multipoint communication, as suggested by Iloh. This modification would benefit the system to be more efficient

Response to Arguments

Applicant's arguments have been considered but are moot in view of new ground(s) of rejections.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ZEWDU BEYEN whose telephone number is (571)270-7157. The examiner can normally be reached on Monday thru Friday, 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 1-571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Z. B./

Examiner, Art Unit 2461

/Huy D Vu/

Supervisory Patent Examiner, Art Unit 2461